

AMENDMENTS TO THE CLAIMS:

Claims 1-17 are canceled without prejudice or disclaimer. Claims 18-36 are added. The following is the status of the claims of the above-captioned application.

Claim 18. (New) An isolated polypeptide which has amylase activity and has an amino acid sequence which comprises:

a) a catalytic core sequence encoded by a DNA sequence present in a plasmid in *E. coli* DSM 16113 or in *Valsaria rubricosa* CBS 848.96,

b) a sequence as shown in positions 1-439 or position 1-566 of SEQ ID NO 2 or 19;

c) a sequence which has at least 70 % identity to the sequence defined in (a) or (b), or

d) a sequence encoded by a nucleic acid sequence which hybridizes with the complementary strand of nucleotides 146-1462 of SEQ ID NO: 1 or nucleotides 76-1392 of SEQ ID NO: 18 under hybridization conditions comprising prehybridizing in a solution of 5 x SSC, 5 x Denhardt's solution, 0.5% SDS and 100 micrograms/ml of denatured sonicated salmon sperm DNA, followed by hybridization in the same solution for 12 hours at 55°C, and then washing twice for 30 minutes in 2 x SSC, 0.5% SDS at a temperature of 60°C.

Claim 19. (New) The polypeptide of claim 18, comprising an amino acid sequence which has at least 80% identity with the sequence as shown in positions 1-439 or position 1-566 of SEQ ID NO 2 or 19.

Claim 20. (New) The polypeptide of claim 18, comprising an amino acid sequence which has at least 90% identity with the sequence as shown in positions 1-439 or position 1-566 of SEQ ID NO 2 or 19.

Claim 21. (New) The polypeptide of claim 18, comprising an amino acid sequence which has at least 95% identity with the sequence as shown in positions 1-439 or position 1-566 of SEQ ID NO 2 or 19.

Claim 22. (New) The polypeptide of claim 18, comprising an amino acid sequence which has at least 98% identity with the sequence as shown in positions 1-439 or position 1-566 of SEQ ID NO 2 or 19.

Claim 23. (New) The polypeptide of claim 18, comprising a sequence encoded by a nucleic acid sequence which hybridizes with the complementary strand of nucleotides 146-1462

of SEQ ID NO: 1 or nucleotides 76-1392 of SEQ ID NO: 18 under hybridization conditions comprising prehybridizing in a solution of 5 x SSC, 5 x Denhardt's solution, 0.5% SDS and 100 micrograms/ml of denatured sonicated salmon sperm DNA, followed by hybridization in the same solution for 12 hours at 55°C, and then washing twice for 30 minutes in 2 x SSC, 0.5% SDS at a temperature of 65°C.

Claim 24. (New) The polypeptide of claim 18, comprising a sequence encoded by a nucleic acid sequence which hybridizes with the complementary strand of nucleotides 146-1462 of SEQ ID NO: 1 or nucleotides 76-1392 of SEQ ID NO: 18 under hybridization conditions comprising prehybridizing in a solution of 5 x SSC, 5 x Denhardt's solution, 0.5% SDS and 100 micrograms/ml of denatured sonicated salmon sperm DNA, followed by hybridization in the same solution for 12 hours at 55°C, and then washing twice for 30 minutes in 2 x SSC, 0.5% SDS at a temperature of 70°C.

Claim 25. (New) The polypeptide of claim 18 wherein the amino acid sequence further comprises a carbohydrate-binding domain.

Claim 26. (New) A vector comprising the polynucleotide of claim 18 operably linked to one or more control sequences that direct the production of the polypeptide in a suitable host.

Claim 27. (New) A transformed host cell comprising the vector of claim 26.

Claim 28. (New) A method for producing an amylase, which comprises
e) cultivating the host cell of claim 27 under conditions appropriate for expression of amylase, and
f) recovering the amylase.

Claim 29. (New) A dough composition which comprises flour and the polypeptide of claim 18.

Claim 30. (New) A process for preparing a dough-based product, comprising adding the polypeptide of claim 18 to a dough, leavening, and heating the dough.

Claim 31. (New) The process of claim 30 which further comprises adding an exo-acting amylase to the dough.

Claim 32. (New) The process of claim 31 wherein the exo-acting amylase is a maltogenic alpha-amylase.

Claim 33. (New) A process for preparing a dough-based product, comprising adding a first and a second amylase to a dough, leavening, and heating the dough, wherein:

g) the first amylase retains more than 50% activity after 15 min incubation at 62°C in 50 mM sodium acetate, 1 mM CaCl₂, pH 5.7, and has an amino acid sequence comprising a catalytic module and carbohydrate-binding module, and

h) the second amylase is an exo-acting amylase.

Claim 34. (New) The process of claim 33 wherein the first amylase is derived from a fungus.

Claim 35. (New) The process of claim 33 wherein the second amylase is a maltogenic alpha-amylase.

Claim 36. (New) A polynucleotide comprising a sequence which encodes the polypeptide of claim 18.